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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/656,924 | 09/05/2003 | Norbert Huber | 56/414 | 8360 |

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EXAMINER

DESCHERE, ANDREW M

| ART UNIT | PAPER NUMBER |
|----------|--------------|
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2836

DATE MAILED: 08/09/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

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|------------------------------|---------------------------------------|-------------------------------------|--|
| Office Action Summary | Application No. 10/656,924 | Applicant(s) HUBER ET AL. | |
| | Examiner Andrew M. Deschere | Art Unit 2836 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-4 and 7-10 is/are rejected.
- 7) ☒ Claim(s) 5 and 6 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 27 April 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date ____ | 6) <input type="checkbox"/> Other: ____ |

DETAILED ACTION

Response to Amendment

The drawings were received on 27 April 2006. These drawings are acceptable; Examiner's objection with respect to a lack of a "Prior Art" label on Figure 1 is withdrawn.

Claim 1 has been amended to correct a grammatical error. Examiner's objection with respect to claim 1 is withdrawn.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-6 rejected under 35 U.S.C. 102(e) as being anticipated by United States Patent 6,856,137 ("Roden").

Roden discloses a ground fault detection system with two constant DC feed lines, +DC link and –DC link (Figure 5). An intermediate capacitor C1 is connected between these feed lines, and a controller 800 controls the flow of current in the system. A current sensor 2000 is located on only one of the feed lines (the +DC link), and generates an output to controller 800. When the sensed current exceeds a predetermined limit, the switches of switching mechanism 400 (found in Figure 5, reference number taken from Figure 1) are interrupted (column 8, lines

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5-18). Switches Q1, Q3, and Q5 are provided for the +DC link, and switches Q2, Q4, and Q6 for the -DC link.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 7 and 8 rejected under 35 U.S.C. 103(a) as being unpatentable over Roden and United States Patent 6,166,924 ("Assow"). Roden teaches a system with two constant DC feed lines, including an intermediate capacitor, a single current sensor, and a control device. However, Roden discloses neither the use of chokes on the feed lines, nor the use of a recovery diode in-between the feed lines. Assow discloses valley-fill circuitry 12 and 14 (Figure 4), disposed in-between two DC feed lines. Also provided are pump chokes L2 and L3 to help maintain a high power factor. The valley-fill circuit includes diodes that connect between the two DC feed lines. It would have been obvious to one of ordinary skill in the art at the time of the invention to include such chokes and valley-fill circuitry in the invention of Roden to stabilize the current output by the system (column 1, line 66-column 2, line 7).

Claims 9 and 10 rejected under 35 U.S.C. 103(a) as being unpatentable over Roden and United States Patent 4,507,724 ("Glennon"). Roden teaches a system with two constant DC feed lines, including an intermediate capacitor, a single current sensor, and a control device, but does not disclose the use of optically coupled, separate driver stages for the feed lines. Glennon teaches the use of optically coupled, separate base drives 38 and 40 (Figures 2 and 3)

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to control the enabling of feed lines 17a and 17b (column 3, lines 59-63). It would have been obvious to one of ordinary skill in the art at the time of the invention to include separate base drives that are optically coupled to prevent problems of impedance matching.

Response to Arguments

Applicant's arguments filed 27 April 2006 have been fully considered but they are not persuasive.

Applicant argues on page 6 that "Roden does not disclose using a constant current source." While Roden does not explicitly disclose the use of constant current, the use of constant voltages with a set impedance loop are taught (+DC link, -DC link; R_A , R_B ,... R_N ; C1; motor 500). Until a fault, constant voltage (and hence constant current) will be provided (see Figs 2A and 3A).

Applicant argues on page 7 that "Roden et al. fails to disclose 'an electronic control device that controls both said first constant current source and said second constant current source in parallel.'" Control is provided by the opening of switching mechanism 400, which will affect the voltage sourced from both +DC link and -DC link. Additionally, control of the switching mechanism is a common control signal for both sources.

Applicant argues on page 7 that "Nowhere does Roden et al. disclose that circuitry turns off constant current sources." Applicant has failed to distinguish how "switching off" is differentiated from the actuation of switching mechanism 400 of Roden. This actuation will result in zero voltage (and hence current) applied to the load, motor 500.

With respect to claim 7, Roden does not explicitly teach the use of chokes; however, the use of chokes on feed lines is well known in the art, such as taught by previously-cited reference Assow.

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Applicant's arguments, see page 7, with respect to claims 5 and 6 have been fully considered and are persuasive. The rejection of claims 5 and 6 has been withdrawn.

Allowable Subject Matter

Claims 5 and 6 objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. US 7,035,123 (Schreiber) discloses a control method for a frequency converter.

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.


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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andrew M. Deschere whose telephone number is (571) 272-8391. The examiner can normally be reached on M-F 8:30-6:00, every other Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brian Sircus can be reached on (571) 272-2800 x36. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

AMD



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